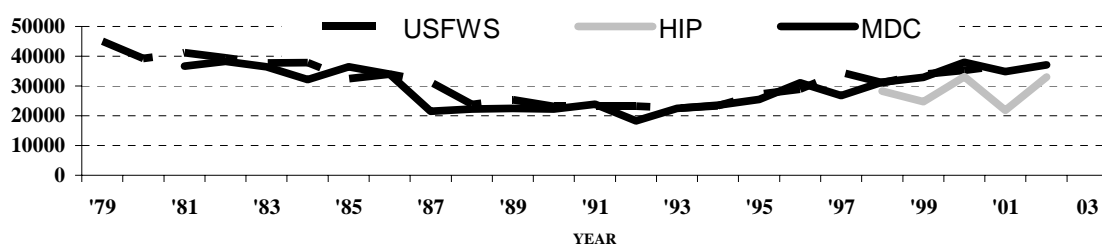
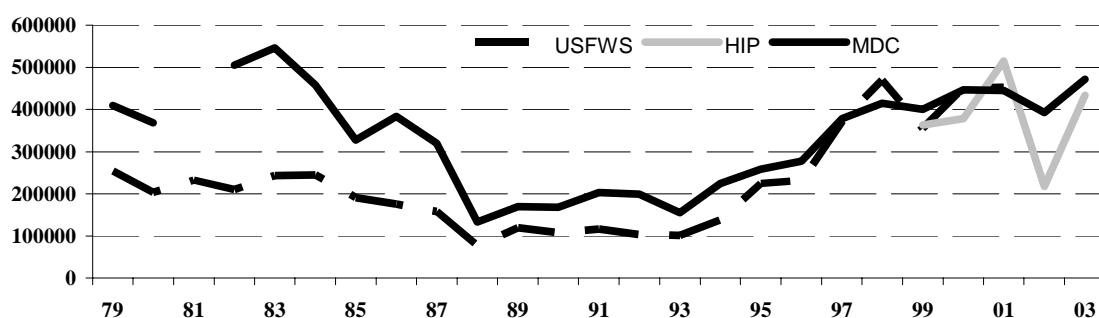


## Appendix A. Comparison of hunter and harvest estimates.

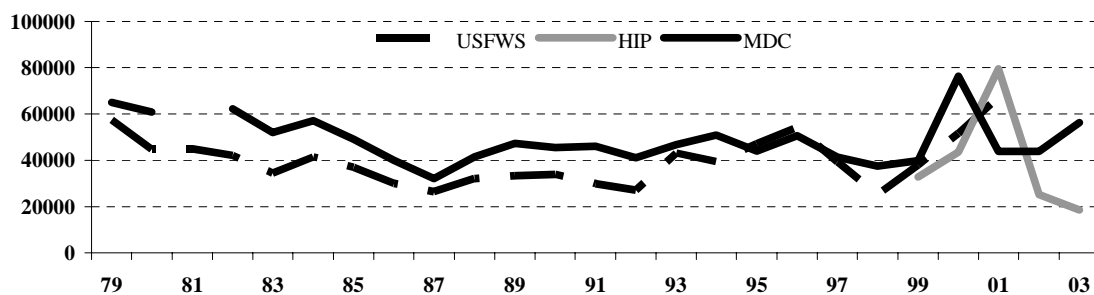
MO waterfowl hunter numbers: USFWS active waterfowl hunters, HIP estimate of duck hunters, and MDC estimate of duck hunters



MO duck harvest estimates: 1979-2003 from USFWS, HIP, and MDC estimates



Missouri Canada goose harvest estimates: 1979-2003 from USFWS, HIP, and MDC estimates survey



## Appendix B. Waterfowl migrations, populations, habitat conditions, and hunting results by state/province in the Mississippi Flyway, 2003-04.

2003-04 Season Glance	HABITAT AND WEATHER	DUCK NUMBERS	DUCK HARVEST	GOOSE NUMBERS	GOOSE HARVEST	COMMENTS
<b>AL</b>	Favorable hunting conditions. Rain less than 2002 but above average. SAVs in reservoirs and bay above	+8.3% in Tennessee Valley and -72% in Mobile Bay area vs. 10 year average (1993-2002).	Projected slight improvement from 2002.	Lowest numbers on Wheeler Refuge since the 1940s (980).	Giant Canada early season was average.	
<b>AR</b>	Warm dry conditions. Very little rain until late Jan. NE AR had good habitat all year. Most of state very dry.	Aerial surveys about 50-70% below normal for most species.	Appears very low. Probably below 1,000,000. Many hunters quit mid-season	Snow/Ross much lower. White-front about average. Canada-low	Snow/Ross hunting activity high, should be good during Cons. Order period. Resident CG harvest was up.	3 <sup>rd</sup> year of lower success. Stamp sales down 5% from last year, 10% down from 01-02
<b>IL</b>	Nov-mid Jan above avg. Late Jan below avg. Snowfall in north below avg. IL River poor moist-soil, except Chautauqua NWR.	IL River ducks 21% below avg. MS River ducks 16% below avg. Mallards: IL / MS river 32% above 2002 but 19% below avg.	26 public areas shot 73,162 ducks (438% > 2002). Hunter success 1.01 duck/hunter was 16% > than 2002 and near avg.	Large #s of CG remained in N. IL through Jan. S. IL did not exceed 65,000 until Jan. 30, but 140,000 on 2/3 in S. IL.	Three quota zones shot 52,000 CG or 72% of quota. N. Zone shut down 5 days early.	CG excellent North, poor South. Ducks avg. on state areas. No early freeze-up.
<b>IN</b>	Above normal amounts of rain and normal flooding for most of state. S. IN experienced extensive flooding in early Jan.	Duck numbers were low. Numbers increased as the season went on. Highest estimates were after season	Efforts were lower than last year, as was duck harvest.	Normal migration; small flocks in N. IN during late Oct. High #s mid-Dec. into early Feb.	Early season similar to 2002. Reg. season similar to past few years.	Hunter concerns over ducks/geese arriving towards season end. .
<b>IA</b>	Dry Sep., Oct. water levels below normal. North ½ IA froze Nov. 2-9. State froze early Dec.	Major migration Oct. 27-Nov. 9 was avg. Most through by mid-Nov., and most in west 1/3 of IA.	Should be near average.	Normal Oct/Nov. Large migration last week in Nov. High #s mid-Dec into Jan.	Similar to past few years which is above avg. for the 1990s.	Good Sep. split of duck season, poor 2 <sup>nd</sup> opener. Ducks done by 11/10.
<b>KY</b>	Nov-Jan temps extremely variable. Heavy spring floods meant poor/ fair moist-soil crops.	#s 25-45% below avg. through mid-Dec., early Jan. lowest since '98. Ducks peaked 3 <sup>rd</sup> week Jan.	Good early, fell sharply thru mid-Dec., good late. Expect avg. or slightly below.	Migrant CG peaked after season. WF #s highest reported in western KY.	CG will be slightly below avg., with focus on locals. WF harvest above avg.	CG goose hunters requesting 2/15 closing date in W Zone.
<b>LA</b>	Precipitation & temp near normal. Habitat good in coastal zone, dry in north LA.	Aerial surveys well below avg., except Midwinter count was avg. with 3.4 million.	Harvest similar to last year's poor season. Better 1 <sup>st</sup> split. Mallards down, teal up.	WF, SG/Ross above last year, but below 5 year avg., Light geese arrived late, left early.	WF hunting good, light goose harvest higher; more effort due to poor duck success.	Third year with reduced duck hunting success. There is a growing concern.
<b>MB</b>	No report					
<b>MI</b>	Wet spring, dry summer and early fall. Fall / winter weather normal, lots of snow in Jan.	Spring production average. Fall teal and wood ducks #s good, mallard #s lower.	Moderate harvest. GWT abundant all fall. Mallard harvest lower than 2002.	Production appeared avg. Good #s of CG through fall, esp. late Oct. and early Nov.	Early season similar to 2002. Reg. season higher and late season lower.	Growing concern over declining MI mallards since 1998.
<b>MN</b>	Dry conditions all fall. Excellent wild rice. Warm Oct., cold and freeze-up early Nov, mild Dec.	Populations down, but above long-term avg. Moderate #s in Oct and Nov.	Good opener, poor to fair in Oct. Expect smaller or similar harvest to last year.	Resident Pop. 304,000. EPP fall numbers fair. 80,000 CG during Jan. Midwinter count.	Sep. harvest 81,000. Reg. season avg., good Dec. Overall, similar to last yr.	Spinning-wing ban 1 <sup>st</sup> 8 days. 119,000 state stamps sold. Poor diver hunting.
<b>MS</b>	Dry conditions all fall. Rain and cold weather arrived after the season ended.	Duck #s low early, increased as the season went on. Highest estimates were after season.	Opening weekend was good. The remainder of the season was poor.	Fair to good reproduction of resident geese.		Hunter concern of three bad years of duck numbers in MS.
<b>MO</b>	Early season dry and warm, but above avg. precipitation and colder temperatures improved conditions late season.	Duck numbers above avg. and above last year but within historic range.	Record high harvest on public areas. Above avg. harvest expected overall.	Low #s CG early but improved during Jan. Good #s of light geese through Dec., low #s in Jan.	Average CG harvest but above last year. Snow goose harvest similar to last year	Timely migration events and open water ensured hunting opportunity throughout season.
<b>OH</b>	North cold with early ice, South had extensive flooding in Dec./Jan.	Migration surveys indicated below normal concentrations throughout season	Widely mixed across state, and largely relegated to mallards in S. Controlled hunts above avg.	#s below normal until mid Jan., higher #s in Feb. Overall, below normal.	CG hunting slow in North, fair in South.	Mixed hunter success.
<b>ON</b>	No Report					
<b>TN</b>	West TN crops good. Rest of state poor. Weather warm.	Down 48% from 94-03. Down 26% from 2003	Very poor, maybe worst in history	CG down from avg., WF and SG up.	Very poor	Birds acted like old, educated birds.
<b>WI</b>	Dry early, some Nov. rain. Early Oct. cold, warm rest of month. Good wild rice. MS River better.	Total Spring population and mallards down from 2002, but above long-term avg..	High expectations but not realized. Overall expect lower than 2002 harvest.	Spring resident #s highest ever at 235,000. Fall #s and flights into Horicon good.	Early season down. Reg. CG season harvest 73,441, 14% below allowable.	

**Appendix C. Mean mallard harvest/day by 5-day periods among years of similar zoning structure, 1973-2003.**

	October			November						December						January				
	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5
<b>Mallards</b>																				
1973-76			3915	3707	4166	3560	2202	2853	2848	1875	2471	2137	2813		1873	712				
1977-79			1699	2402	3188	3856	3810	3562	2260	2391	1412	679	625	100	166					
1980-82	1715			3472	2750	2100	2412	2552	2228	1705	1520	2254			518		143			
1983-85	913	1151		3628	2873	2421	2055	3331	2683	2339	1521	1379	461	343	461	319				
1986-90				3814	2447	1532	1877	1856	2008	1512	1946	317			146	56	130	0		
1991-94			1382	1437	2277	1675	1520	1541	1844	1085	530	174	100	108	94	215				
1995			1717	5492	3001	2012	2146	1956	2462	1256	2104	873	1339	278	277	330	0			
1996			1438	2286	1705	1783	2116	2291	2316	3807	1187	740	781	521	261	600	541	971		
1997		1313	1077	1536	2834	4323	2884	2013	2372	2942	2476	2915	2927	1358	1315	0	926	2157		
1998		1528	812	451	1862	5378	3623	3519	3658	1723	3347	1438	1391	613	911	406	584			
1999		962	532	2046	1337	648	1295	2779	2299	4444	4493	5496	5141	1699	1847	859	1115	513		
2000			1004	2912	5801	6707	6160	6440	4903	2545	2207	2344	1252	990	352	338	1429	1447		
2001			1898	1827	2850	1699	2918	5939	9313	4772	4357	5009	6091	6575	1556	424	236	1175	507	
2002 *			659	3060	1204	1304	1341	2682	3439	3576	1994	1616	1547	1582	802	344	344	34	0	516
2003 *		115	1262	6215	7080	2871	2911	4838	4209	2868	3404	2103	5124	3174	2868	118	197	197	669	

\*preliminary

**Appendix D. Mean total duck harvest/day by 5-day periods among years of similar zoning structure, 1973-2003.**

	October			November						December						January				
	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5
Total Ducks																				
1973-76			11918	8037	6529	5348	3204	3839	3448	2334	3269	2588	3203		2202	712				
1977-79			6068	5683	5990	6111	5874	5486	3177	3628	1903	804	798	167	249					
1980-82	8049			7630	4836	3334	3441	4107	2989	2309	2001	2541			609		175			
1983-85	5609	8500		9604	5826	3948	3628	4529	3716	3089	2080	1637	592	619	834	319				
1986-90				8157	4734	2709	2941	2985	2415	2175	2710	492			191	129	155	0		
1991-94			3673	3596	4487	3213	2455	2330	2661	1477	829	268	124	130	183	441				
1995			5761	11516	5070	3924	3072	3720	3709	1582	2856	1068	1634	660	436	361	0			
1996			5317	6968	4648	3958	4442	3616	3850	4466	1737	1317	1479	667	261	820	923	1618		
1997		7661	4256	6064	8475	11054	6899	3814	4618	4418	4330	4305	3390	2097	2348	91	1117	2613		
1998		10355	7650	4168	7139	13601	9296	7684	6695	3336	5687	2532	3599	1751	4032	1103	1029			
1999		5763	3583	3965	3709	1948	3012	4874	4264	7144	7386	8267	7609	3104	2690	1010	2150	513		
2000			4172	10593	12508	11078	10510	11898	6935	4696	3948	3284	1518	1677	668	395	1992	2183		
2001			4426	6424	5120	3644	4105	9393	12632	6142	5784	7357	7553	8538	3460	1546	444	1998	972	
2002*			3152	8459	2888	2407	1926	3851	4711	4573	2957	1857	1788	1891	1003	378	378	34	0	516
2003*		6293	1409	14003	13610	5467	5546	8221	7237	4209	4523	3540	7001	4602	3180	275	236	511	747	

\*preliminary

**Appendix E. Mean wood duck harvest/day by 5-day periods among years of similar zoning structure, 1973-2003.**

	October			November						December						January				
	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5
Wood Ducks																				
1973-76			2320	1039	419	366	58	134	29	0	53	0	0		0	0				
1977-79			1342	761	279	371	161	137	10	81	29	0	0	0	0					
1980-82	2567			1246	891	403	202	152	50	65	64	0			0		0			
1983-85	2299	2593		1288	359	261	129	206	74	84	44	11	0	0	0	0				
1986-90				1178	455	174	127	129	93	56	0	0			0	0	0	0		
1991-94			954	662	500	318	165	138	95	42	40	1	0	0	7	0				
1995			1468	589	290	448	222	316	98	66	0	0	0	0	0	0	0			
1996			871	411	468	203	261	171	129	0	102	324	37	0	0	0	0	0		
1997		3054	398	615	301	361	29	76	59	0	0	0	76	76	0	0	0	0		
1998		2411	1380	902	1295	1383	287	518	116	56	50	0	231	65	108	0	0			
1999		2703	1236	683	536	494	571	0	176	103	494	150	77	0	0	0	26	0		
2000			729	1316	445	228	148	57	42	0	161	0	0	57	0	0	113	0		
2001			414	872	253	166	0	167	197	114	121	42	129	0	139	0	0	0		
2002*			229	550	103	69	34	103	172	34	0	0	0	0	0	0	0	0		
2003*		1377	328	983	944	590	393	157	0	118	157	0	39	0	0	0	0	0	39	

\*preliminary

**2004 Status of Missouri wetland areas (September 15, 2004)**

AREA	REPAIRS AND CONSTRUCTION	HABITAT/FOOD STATUS			Water Management	HUNTING PARTIES PER DAY	
		Moist-Soil	Timber	Floodable Crops		Blind	Walk-in
<b>Nodaway Valley</b>	None	Excellent	NA	Good	Normal	4 blinds, (1 disabled )	15 plus 150 acre open area
<b>Bob Brown</b>	None	Good	NA	Excellent	A shortened MO River navigation season could result in reduced pumping capabilities	1 disabled	4-9 (low river) 19 – 20 (normal riv)
<b>Fountain Grove</b>	None	Poor/Fair	Fair	Fair	Normal	14-26	7-16
<b>Swan Lake</b>	None	Good	NA	NA	Normal	12	10 field hunting spots
<b>Grand Pass</b>	None	Good	NA	Excellent	A shortened MO River navigation season could result in reduced pumping capabilities	None	10-15 (low river) 20-45 (norm. riv.)
<b>Eagle Bluffs</b>	None	Excellent	NA	Excellent	A shortened MO River navigation season could result in reduced pumping capabilities	2 disabled	15-20 if normal river levels
<b>Upper Mississippi</b>	None	Fair	Poor	NA	NA	99	Opportunistic
<b>Ted Shanks</b>	None	Excellent	Fair	Very Good	Normal	16(1 disabled)	20-30
<b>B.K. Leach</b>	South addition closed for construction	Good/Exc	Fair	Fair/Poor	Normal	7 ( 1 disabled)	3
<b>Marais Temps Clair</b>	None	Good/Exc	NA	Fair/Good	Normal	1 disabled	5-8
<b>Schell-Osage</b>	None	Excellent	Good/Exc.	None	Normal	20	12 Parties- Rain Dependant
<b>Montrose</b>	None	Fair/good	NA	None	Normal	15	none
<b>Settles Ford</b>	None	Good	NA	Poor	9/14 have water 5 pools – water in borrows	1	Opportunistic
<b>Four Rivers</b>	None-Unit 4 repairs completed!	Fair/Exc.	NA	Fair/Good	Managed-Normal Open-below normal-rain/flood dependant	1 disabled	22-30 plus open areas
<b>Duck Creek</b>	None	Excellent	Fair	Fair/Good	Pool 1: Extremely low Pool 2: Dependent upon rainfall, to be flooded as soon as possible Pool 3: Dependent upon rainfall, to be flooded after tree growing season	8 blinds (2 disabled) 3 pits	3
<b>Otter Slough</b>	None	Excellent	NA	Good	Normal	10 (1 disabled)	17-20
<b>Ten-Mile Pond</b>	1 Pool	Excellent	NA	Excellent	Normal	0	12
<b>Coon Island</b>	None	Fair	Good	Poor	Normal	0	Open Hunting
<b>Little River</b>	Potential bridge construction may cause closure of northern units	Fair	NA	Poor/Fair	Normal	0	3

**Appendix G. 2004 Teal season - Status of Missouri wetland areas (8/3/04).**

Conservation Area	Drawing	Repairs	Habitat/Food Status	Teal Season*	
			Moist-Soil	Acres Flooded/ Wetland Status	No. Hunters
Nodaway Valley	No	None	Good	150 acres in hunting pools, 50 acres in teal refuge	No Limit
Bob Brown	No	None	Good	150 acres	No Limit
Fountain Grove	Opening Weekend	None	Fair to Good	400	25
Grand Pass	No	None	Good to Excellent	250	No Limit
Eagle Bluffs	Yes in A.M. No in P.M.	None	Good	400	24 parties & 2 disabled blinds
Upper Mississippi	No	None	Fair	--	--
Ted Shanks	No	None	Good	600 mostly in oxbow lakes	No limit
B.K. Leach	No	South addition closed for construction	Very Good	50-75	No limit
Marais Temp Clair	As Needed	Pool 3 levee repaires	Very Good	75	About 10
Schell-Osage	No	None	Excellent	200	No limit
Montrose	No	None	Fair/Good	Lake area	No limit
Settles Ford	No	None	Good	340	No limit
Four Rivers	Opening day for Units 1 & 2.	Units 1 and 2: Drainage modifications will delay pumping	Fair to Excellent.	Draw Areas: Unknown – call for updates Open Areas: 600	Draw Areas: Unknown Open Areas: Unlimited
Duck Creek	Potential draw on weekends for Unit A	Pool 1 water level low	Excellent	600-800 Pool 1 75-100 Unit A	No Limit 4 parties
Otter Slough	Yes	None	Excellent	500	18-20
Ten-Mile Pond	No	None	Excellent	75-100	No limit
Coon Island	No	None	Fair	250	No limit
Little River	No	North side inaccessible	Fair	75	4

\* Preliminary estimates are based on late summer projections.